

ABSTRACT OF DISCLOSURE

Disclosed is an improved low alloy high speed tool steel, which exhibits constant toughness with small dispersion of the properties after heat treatment and regardless of the size of the products. The steel consists essentially of, by weight %, C: 0.50-0.75%, Si: 0.02-2.00%, Mn: 0.1-3.0%, P: up to 0.050%, S: up to 0.010%, Cr: 5.0-6.0%, W: 0.5-2.0%, V: 0.70-1.25%, Al: up to 0.1%, O: up to 0.01% and N: up to 0.04% and the balance of Fe. In the steel $[\text{Mo}+0.5\text{W}](\text{Mo-eq.})$ is 2.5-5.0%, $[\text{Mo-eq.}]/\text{V}$ is 2-4. In the annealed state the steel contains carbides of $[\text{MC}+\text{M}_6\text{C}]$ -type and/or $\text{M}_{23}\text{C}_6(\text{M}_7\text{C}_3)$ -type, and after quenching from a temperature of 1100-1200°C, it contains substantially no remaining carbide or, even contains, almost all the carbides are of MC-type.